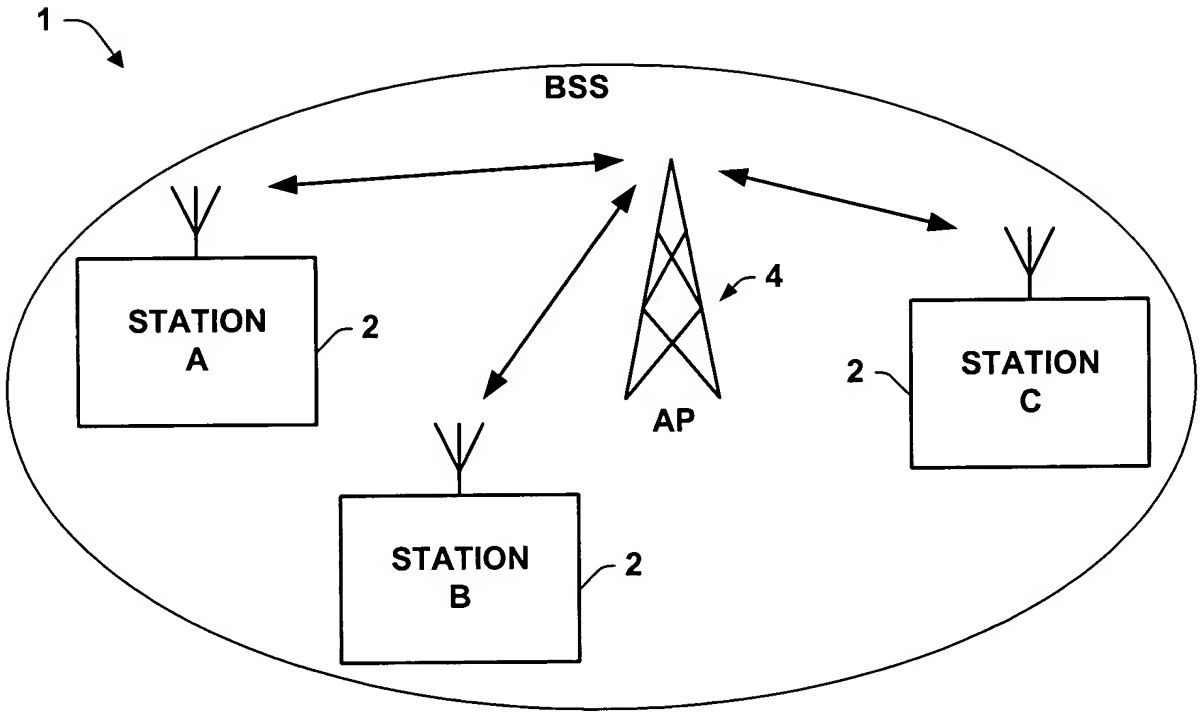

FIG. 1
PRIOR ART

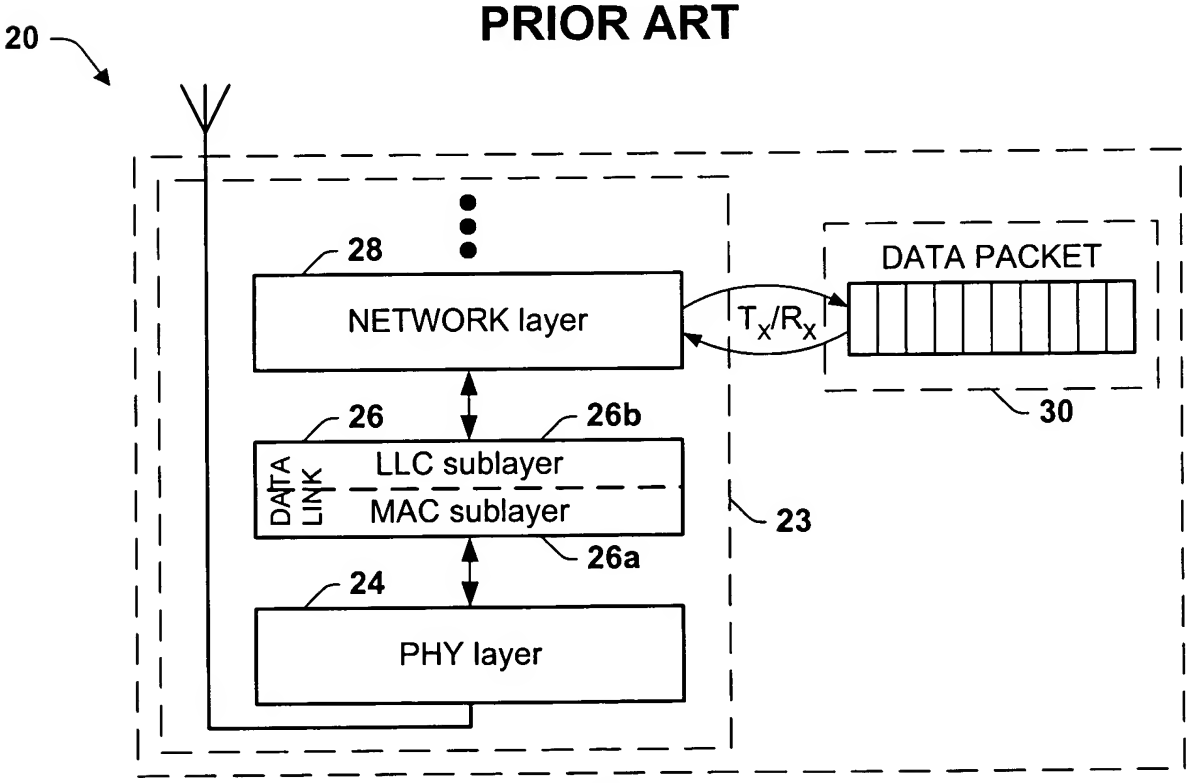

FIG. 2
PRIOR ART

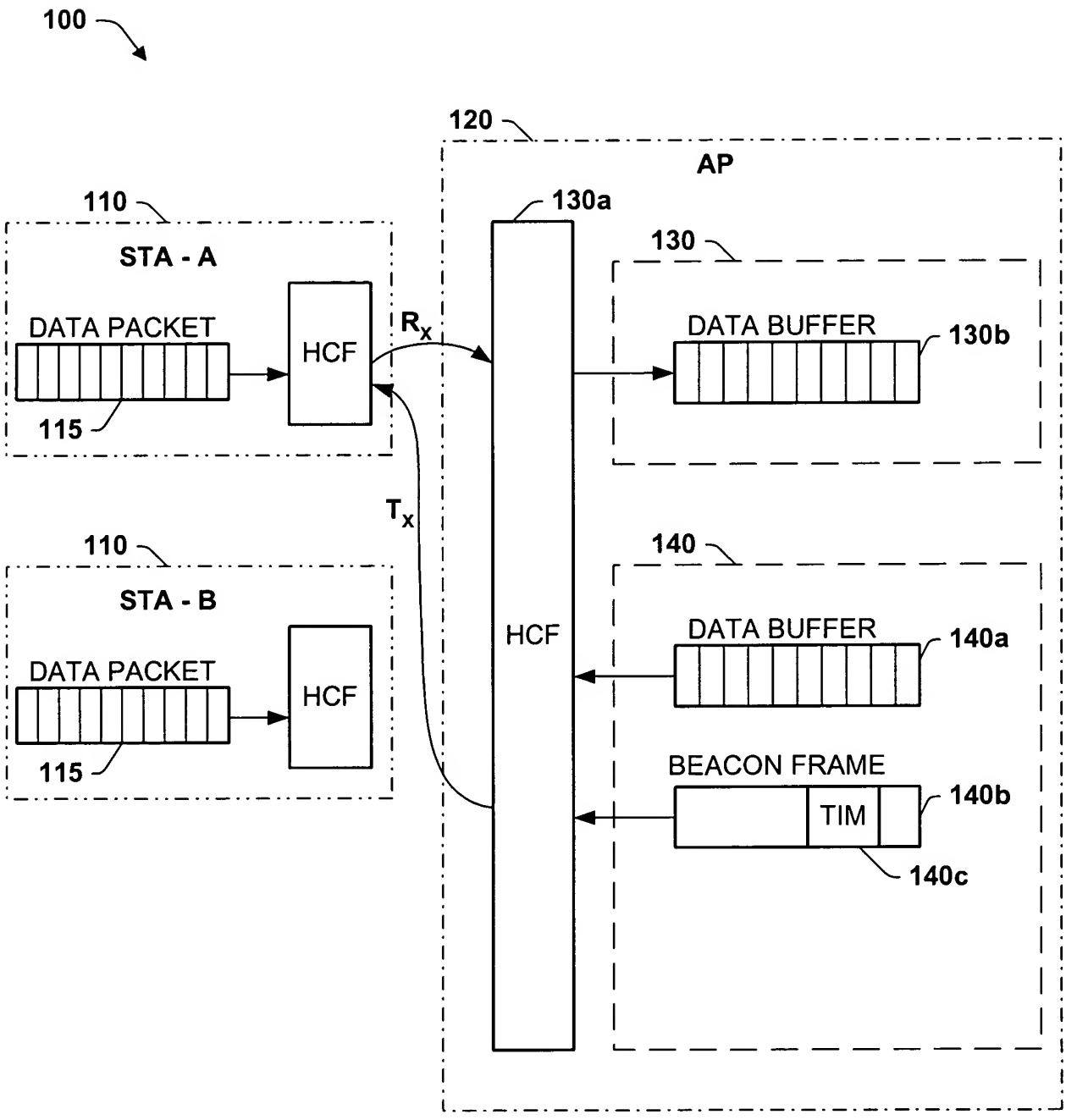
100
120
AP
110
STA - A
DATA PACKET
115
HCF
R_x
T_x
130a
130
DATA BUFFER
130b
110
STA - B
DATA PACKET
115
HCF
HCF
140
DATA BUFFER
140a
BEACON FRAME
TIM
140b
140c

FIG. 3

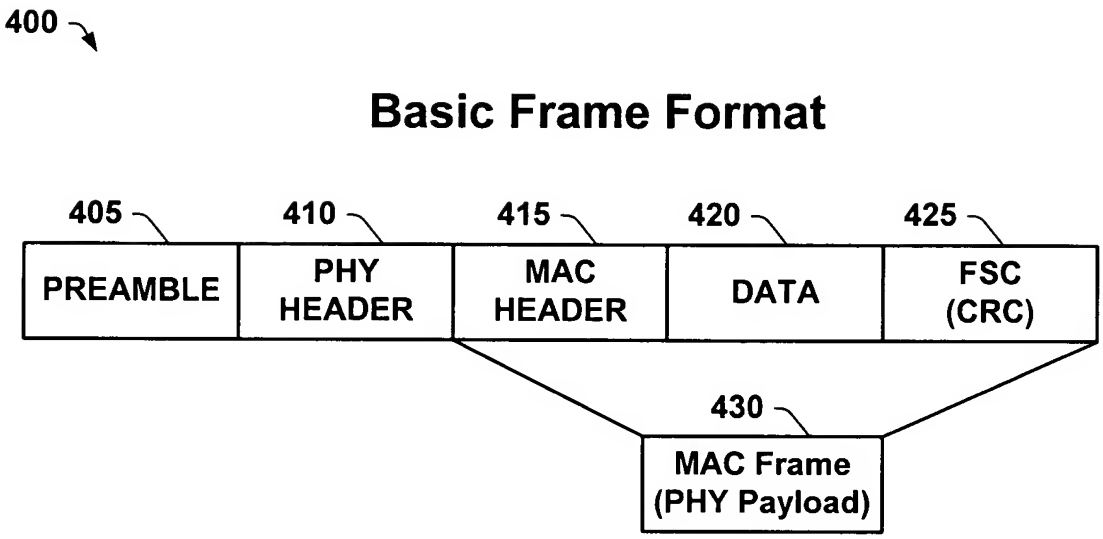
400
Basic Frame Format
405
410
415
420
425
PREAMBLE
PHY HEADER
MAC HEADER
DATA
FSC (CRC)
430
MAC Frame (PHY Payload)

FIG. 4

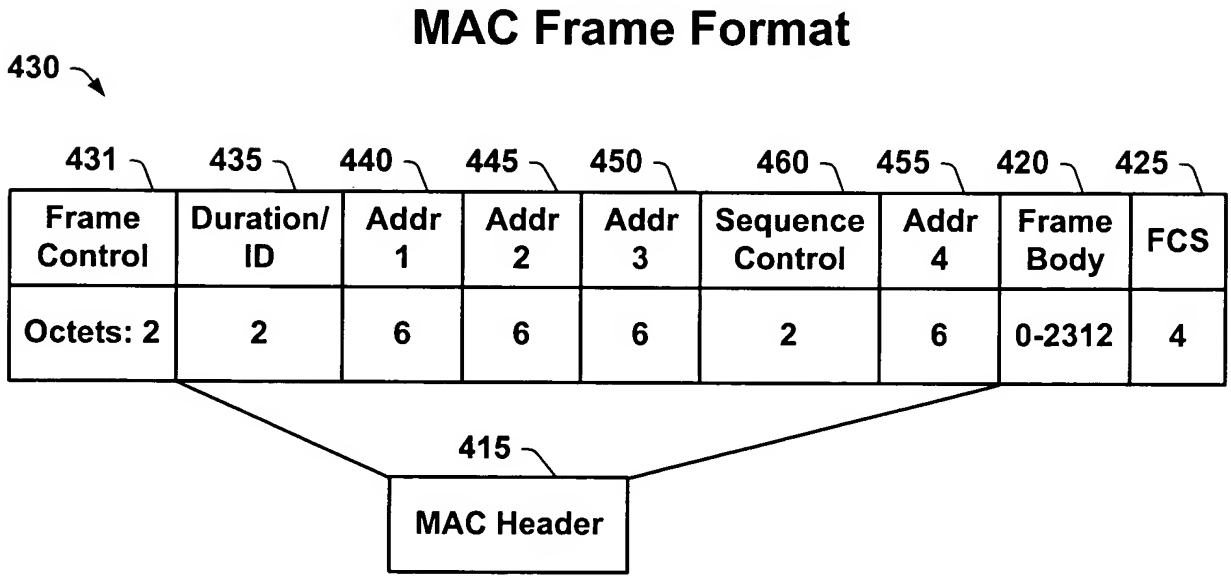
MAC Frame Format
430
431
435
440
445
450
460
455
420
425
Frame Control
Duration/ ID
Addr 1
Addr 2
Addr 3
Sequence Control
Addr 4
Frame Body
FCS
Octets: 2
2
6
6
6
2
6
0-2312
4
415
MAC Header

FIG. 5

IEEE 802.11b PHY Frame Format

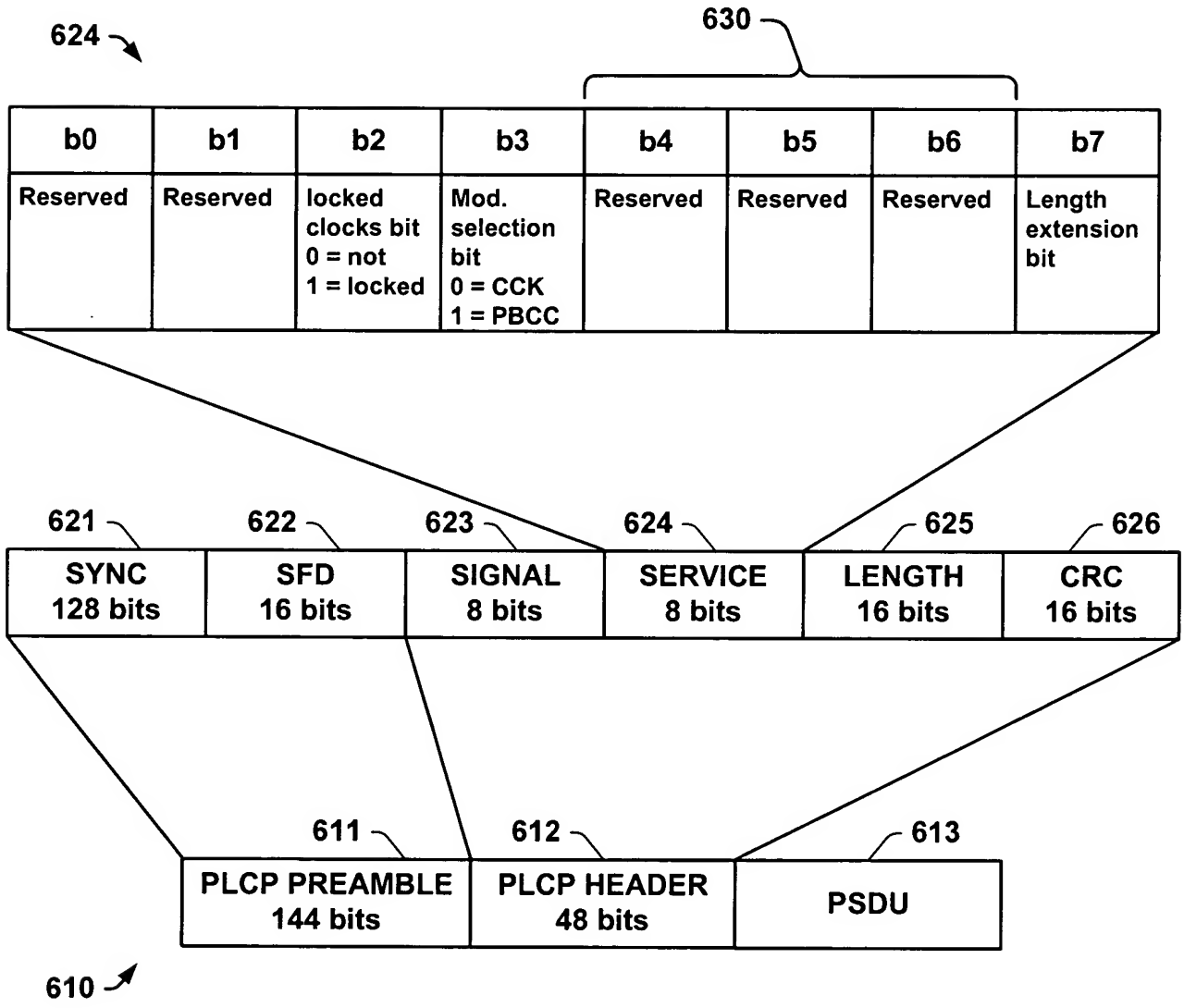

FIG. 6

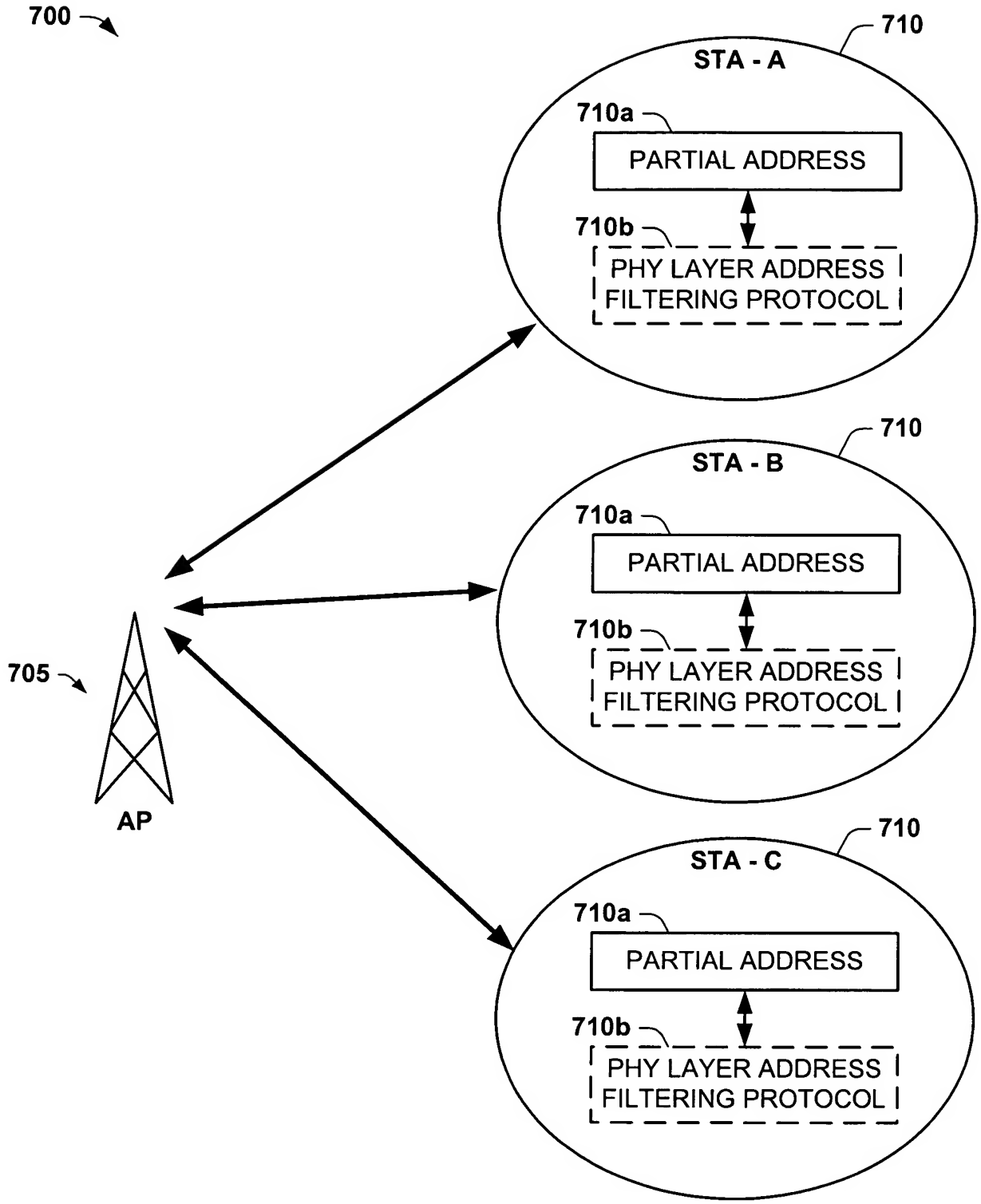
700
710
STA - A
710a
PARTIAL ADDRESS
710b
PHY LAYER ADDRESS FILTERING PROTOCOL
710
STA - B
710a
PARTIAL ADDRESS
710b
PHY LAYER ADDRESS FILTERING PROTOCOL
705
AP
710
STA - C
710a
PARTIAL ADDRESS
710b
PHY LAYER ADDRESS FILTERING PROTOCOL

FIG. 7

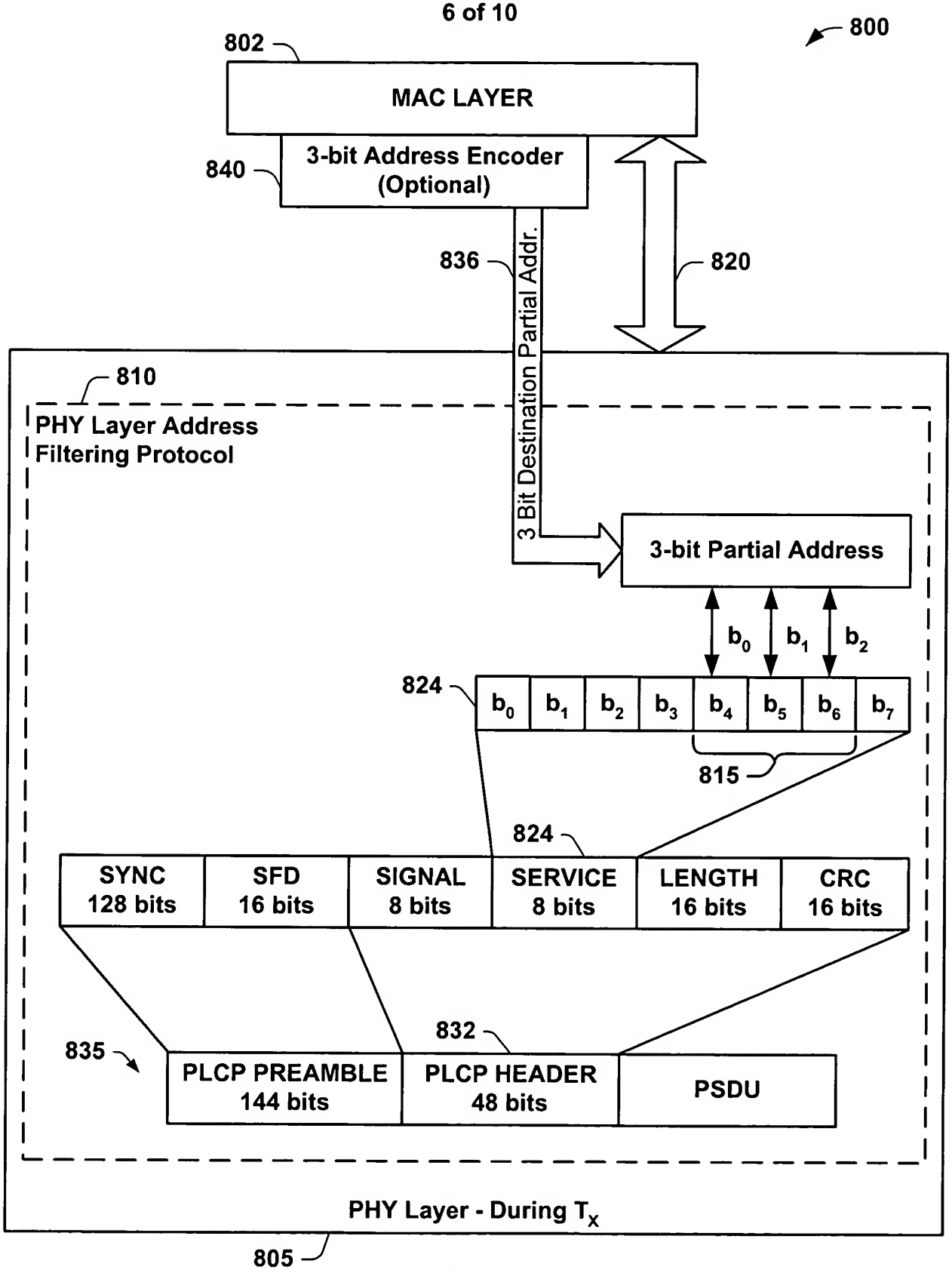
800
802
MAC LAYER
840
3-bit Address Encoder
(Optional)
836
820
3 Bit Destination Partial Addr.
810
PHY Layer Address
Filtering Protocol
3-bit Partial Address
b0
b1
b2
824
b0 b1 b2 b3 b4 b5 b6 b7
815
824
SYNC
128 bits
SFD
16 bits
SIGNAL
8 bits
SERVICE
8 bits
LENGTH
16 bits
CRC
16 bits
832
835
PLCP PREAMBLE
144 bits
PLCP HEADER
48 bits
PSDU
PHY Layer - During Tx
805

FIG. 8

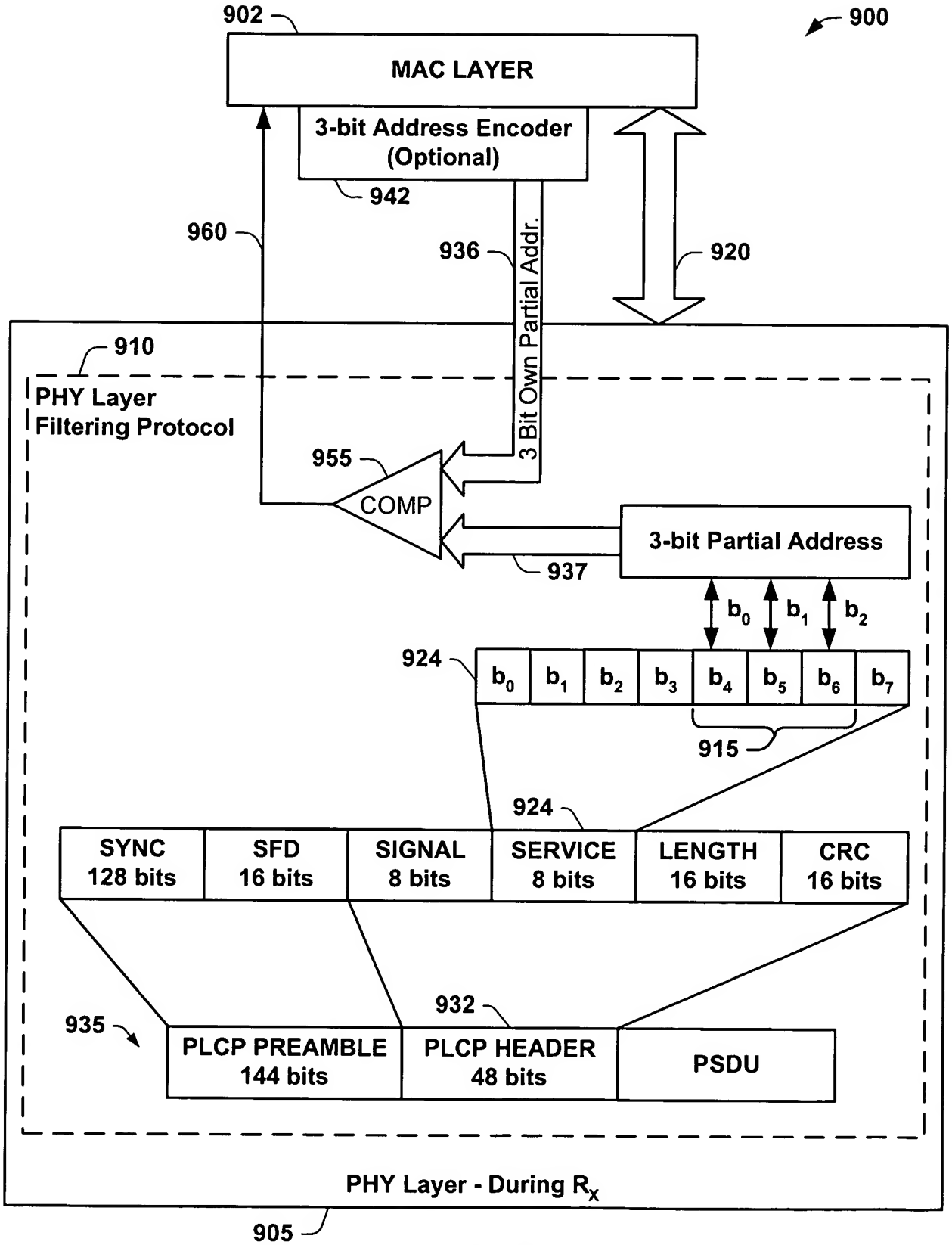
902
900
MAC LAYER
3-bit Address Encoder
(Optional)
942
960
936
3 Bit Own Partial Addr.
920
910
PHY Layer
Filtering Protocol
955
COMP
3-bit Partial Address
937
b0 b1 b2
924
b0 b1 b2 b3 b4 b5 b6 b7
915
924
SYNC
128 bits
SFD
16 bits
SIGNAL
8 bits
SERVICE
8 bits
LENGTH
16 bits
CRC
16 bits
932
935
PLCP PREAMBLE
144 bits
PLCP HEADER
48 bits
PSDU
PHY Layer - During Rx
905

FIG. 9

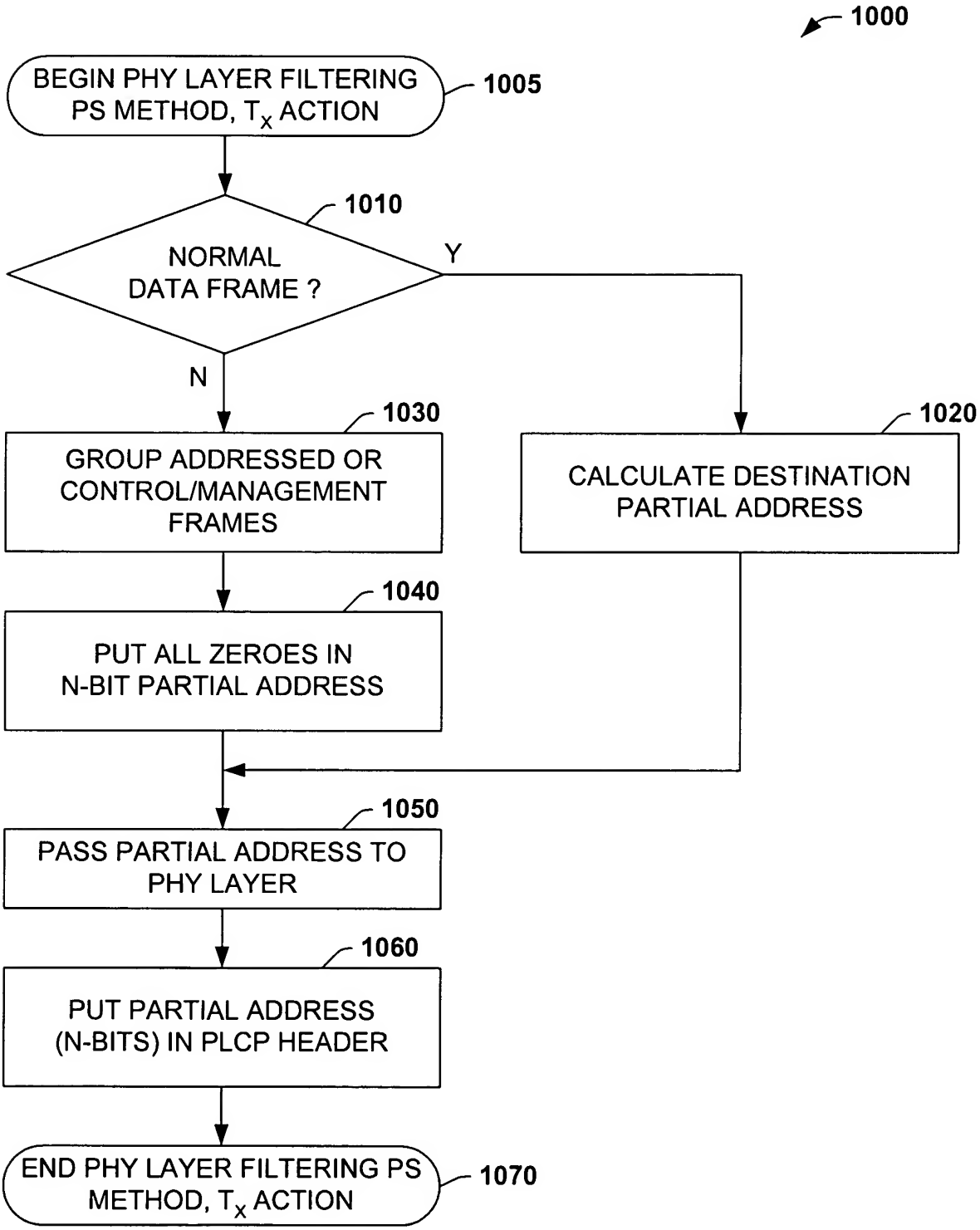
1000
BEGIN PHY LAYER FILTERING PS METHOD, T_X ACTION
1005
1010
NORMAL DATA FRAME ?
Y
N
1030
GROUP ADDRESSED OR CONTROL/MANAGEMENT FRAMES
1020
CALCULATE DESTINATION PARTIAL ADDRESS
1040
PUT ALL ZEROES IN N-BIT PARTIAL ADDRESS
1050
PASS PARTIAL ADDRESS TO PHY LAYER
1060
PUT PARTIAL ADDRESS (N-BITS) IN PLCP HEADER
END PHY LAYER FILTERING PS METHOD, T_X ACTION
1070

FIG. 10

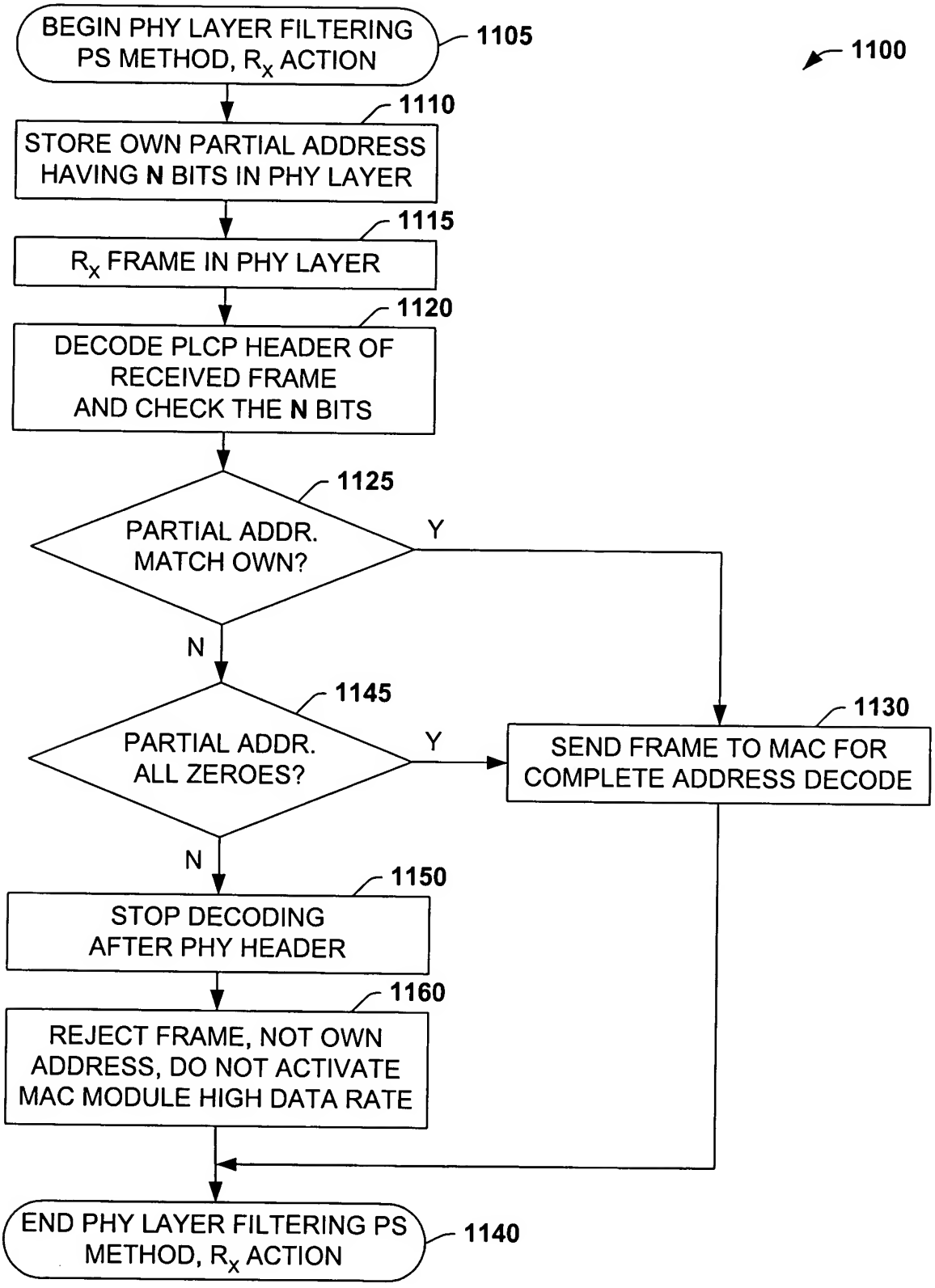
BEGIN PHY LAYER FILTERING PS METHOD, R_X ACTION
1105
1100
1110
STORE OWN PARTIAL ADDRESS HAVING N BITS IN PHY LAYER
1115
R_X FRAME IN PHY LAYER
1120
DECODE PLCP HEADER OF RECEIVED FRAME AND CHECK THE N BITS
1125
PARTIAL ADDR. MATCH OWN?
Y
N
1145
PARTIAL ADDR. ALL ZEROES?
Y
1130
SEND FRAME TO MAC FOR COMPLETE ADDRESS DECODE
N
1150
STOP DECODING AFTER PHY HEADER
1160
REJECT FRAME, NOT OWN ADDRESS, DO NOT ACTIVATE MAC MODULE HIGH DATA RATE
END PHY LAYER FILTERING PS METHOD, R_X ACTION
1140

FIG. 11

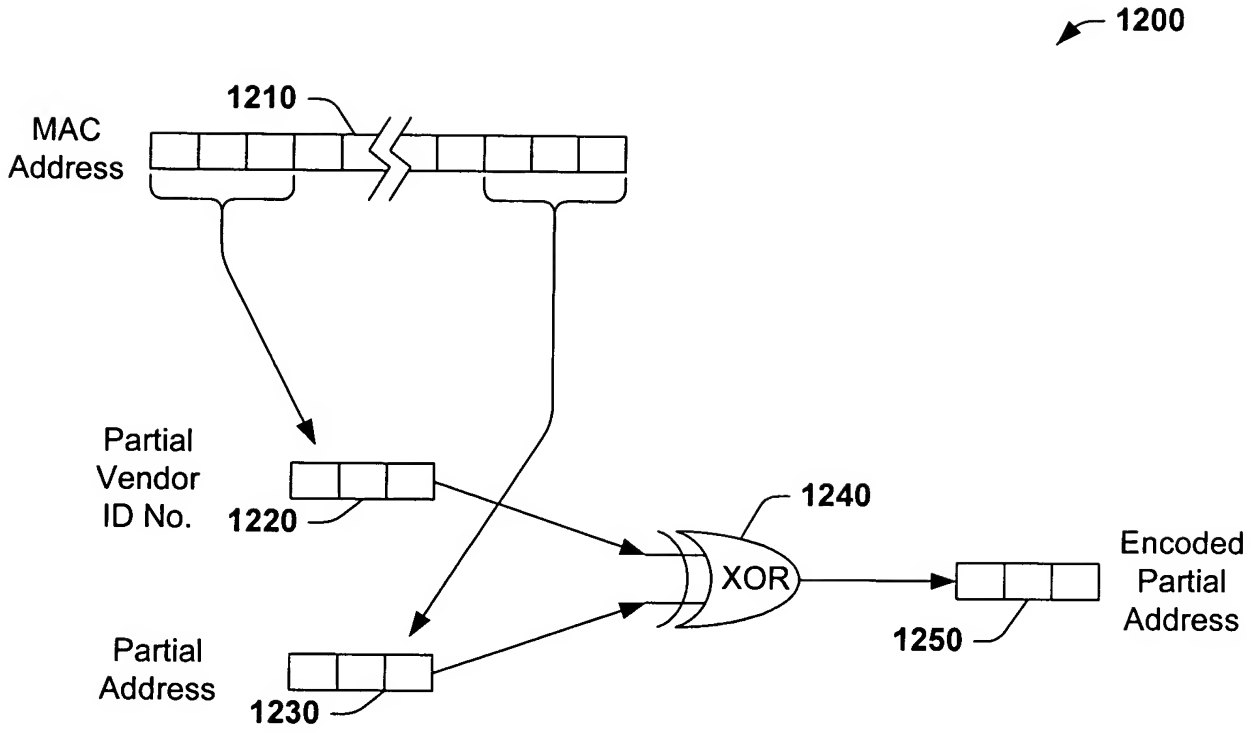
1200
1210
MAC
Address
Partial
Vendor
ID No.
1220
1240
XOR
Encoded
Partial
Address
1250
Partial
Address
1230

FIG. 12